



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,713	12/15/2005	Richard Chi-Te Shen	US030225US	8549
65913	7590	08/12/2009	EXAMINER	
NXP, B.V. NXP INTELLECTUAL PROPERTY & LICENSING M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			DAZENSKI, MARC A	
			ART UNIT	PAPER NUMBER
			2621	
			NOTIFICATION DATE	DELIVERY MODE
			08/12/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No. 10/560,713	Applicant(s) SHEN, RICHARD CHI-TE	
	Examiner MARC DAZENSKI	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☒ Claim(s) 6,8,9,28-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12-15-2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

The election requirement dated 29 April 2009 has been withdrawn. Claims 1-40 are now pending, a full examination of which appears below.

Drawings

The drawings are objected to because the unlabeled rectangular boxes in figures 1-4 should be provided with descriptive text labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

Art Unit: 2621

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 6 is objected to because of the following informalities: the claim refers to "the higher input rate" although there is no antecedent basis for this in the claims. The examiner interprets this to mean "the faster input rate." Appropriate correction is required.

Claim 8 is objected to because of the following informalities: the claim refers to "the input rate" although there is no antecedent basis for this in the claims. It is unclear which input rate the claim is referring (i.e., the faster input rate, the slower input rate, or some undisclosed general input rate). Appropriate correction is required.

Claims 9 and 34-35 are objected to for reasoning similar to claim 8 above.

Claim 32 is objected to for reasoning similar to claim 6 above.

Claims 28-36 are objected to because of the following informalities: the claims depend on "the video player of claim 18," however claim 18 is a method and not a video player. The examiner interprets this to mean, "the video player of claim 27." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2621

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Willis (US Patent 7,106,380), hereinafter referred to as Willis.

Regarding **claim 1**, Willis discloses a frame rate multiplier for liquid crystal display. Further, Willis discloses receiving an input video signal is speeded up by a multiple n of $f(in)$, wherein the frame rate changes in order to suppress flicker, which reads on the claimed, “a method comprising: at times providing video frames of a performance at a slower input rate; at other times providing video frames of the performance at a faster input rate; switching a video display to display frames in first display scan mode when receiving frames at the slower input rate; and switching the video display to display frames in a second display scan mode when receiving frames at the faster input rate, the second display scan mode being different than the first display scan mode,” as disclosed at column 2, line 41 through column 3, line 8.

Regarding **claim 2**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 3**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 4**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 7**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 8**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16, and 20-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Gryskiewicz et al (US Patent 6,392,712), hereinafter referred to as Gryskiewicz.

Regarding **claim 16**, Gryskiewicz discloses synchronizing interlaced and progressive video signals. Further, Gryskiewicz discloses a combined interlaced video signal with a progressively scanned video signal, which reads on the claimed, “at times providing video frames at a slower input rate; displaying the frames received at the slower input rate, at other times providing video frames at a higher input rate; combining the frames received at the higher input rate into combined frames at the slower frame rate; and displaying the combined frames at the slower frame rate,” as disclosed at column 1, lines 53-59.

Regarding **claim 20**, Gryskiewicz discloses everything claimed as applied above (see claim 16). Further, Gryskiewicz discloses combining fields (124a) and (124b) into a progressive stream and then converting into interlaced form using receiver (150),

Art Unit: 2621

which reads on the claimed, "wherein multiple frames with a progressive scan format are combined by dropping lines of each frame to form a combined frame with an interlaced format," as disclosed at column 5, lines 13-20, lines 45-50; column 6, lines 43-67; and exhibited in figure 4.

Regarding **claim 21**, the limitations of the claim are rejected in view of the explanation set forth in claim 20 above.

Regarding **claim 22**, Gryskiewicz discloses everything claimed as applied above (see claim 16). Further, Gryskiewicz discloses interlaced video data streams (182) and (184) which are combined at mixer (156), which reads on the claimed, "wherein multiple frames with an interlaced format are combined by dropping one or more fields of each frame to form a combined frame with an interlaced format," as disclosed at column 7, lines 1-8; column 8, lines 38-43; column 9, lines 3-10; and exhibited in figure 4.

Regarding **claim 23**, the limitations of the claim are rejected in view of the explanation set forth in claim 22 above.

Regarding **claim 24**, the limitations of the claim are rejected in view of the explanation set forth in claim 22 above.

Regarding **claim 25**, the limitations of the claim are rejected in view of the explanation set forth in claim 22 above.

Regarding **claim 26**, Gryskiewicz discloses everything claimed as applied above (see claim 16). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 16 above.

Regarding **claim 27**, Gryskiewicz discloses synchronizing interlaced and progressive video signals. Further, Gryskiewicz discloses a television screen in which separate progressively and interlaced scanned signals may be overlaid to produce a new signal suitable for viewing, which reads on the claimed, "a display device (132) having multiple fixed predetermined display scan modes with corresponding display rates that are independent of the average frame input rate and selectable at least between: a first display scan mode and a second display scan mode that is substantially different than the first display scan mode," as disclosed at column 1, line 48 through column 2, line 11;

receiver (150) which can receive progressive video signals (122) and (130), which reads on the claimed, "an input (122) for video frames of a video program with an predetermined standard average input rate that is selectable at least between: a slower average input rate and a faster average input rate that is substantially different than the slower input rate," as exhibited in figure 1; and,

software program (300) which uses control logic to control the display of the video frames, which reads on the claimed, "means (136) for selecting the first display scan mode when receiving frames at the slower input rate and for selecting the second display scan mode when receiving frames at the faster input rate," as disclosed at column 9, lines 59-67 and exhibited in figures 1 and 4.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-6 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willis (US Patent 7,106,380), hereinafter referred to as Willis, in view of Duruoz et al (US Patent 6,658,056), hereinafter referred to as Duruoz.

Regarding **claim 5**, Willis discloses everything claimed as applied above (see claim 1). However, Willis fails to disclose repeating the display of frames received at the slower input rate to provide a required frame rate for the first display scan mode. The examiner maintains it was well known to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses a 3-2 pull down by which three fields are generated from two fields of a frame of the original picture by displaying one of the fields twice, which reads on the claimed, "repeating the display of frames received at the slower input rate to provide a required frame rate for the first display scan mode," as disclosed at column 5, lines 1-21.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include a 3-2 pull down by which three fields are generated from two fields of

Art Unit: 2621

a frame of the original picture by displaying one of the fields twice, as taught by Duruoz, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 6**, Willis discloses everything claimed as applied above (see claim 1). However, Willis fails to disclose dropping some of the frames received at the higher input rate to provide a required frame rate for the second display scan mode. The examiner maintains it was well known to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses implementing frame-skipping required in audio-visual synchronization during a trick-play operation, which reads on the claimed, "dropping some of the frames received at the higher input rate to provide a required frame rate for the second display scan mode," as disclosed at column 5, line 66 through column 6, line 9.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include implementing frame-skipping required in audio-visual synchronization during a trick-play operation, as taught by Duruoz, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 9**, Willis discloses everything claimed as applied above (see claim 1). However, Willis fails to disclose the method further comprises receiving a user input command to change the input rate; and changing the input rate in response to the

Art Unit: 2621

user input command to change the input rate. The examiner maintains that it was well known in the art to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses control logic (80) specifying which fields are repeated or skipped according to commands such as trick play mode commands, which reads on the claimed, “the method further comprises receiving a user input command to change the input rate; and changing the input rate in response to the user input command to change the input rate,” as disclosed at column 16, lines 13-45.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include control logic (80) specifying which fields are repeated or skipped according to commands such as trick play mode commands, as taught by Duruoz, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 10**, the limitations of the claim are rejected in view of the explanation set forth in claim 9 above.

Regarding **claim 11**, Willis discloses everything claimed as applied above (see claim 1). However, Willis fails to disclose wherein the received frames are provided by a medium player that provides video frames at a controllable average input rate. The examiner maintains it was well known in the art to include the missing limitations, as taught by Duruoz.

Art Unit: 2621

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses audio and video presentation system (30) with a program signal input (32) which may be in the form of an antenna, a cable, CD-ROM or other medium through which a digital input signal is received, which reads on he claimed, "wherein the received frames are provided by a medium player that provides video frames at a controllable average input rate," as disclosed at column 8, lines 8-14.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include audio and video presentation system (30) with a program signal input (32) which may be in the form of an antenna, a cable, CD-ROM or other medium through which a digital input signal is received, as taught by Duruoz, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 12**, the limitations of the claim are rejected in view of the explanation set forth in claim 11 above.

Regarding **claim 13**, Willis discloses everything claimed as applied above (see claim 11). However, Willis fails to disclose wherein the medium player includes user input apparatus for providing a command to change the average input rate. The examiner maintains it was well known in the art to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses

Art Unit: 2621

control input device (33), which reads on he claimed, "wherein the medium player includes user input apparatus for providing a command to change the average input rate," as disclosed at column 8, lines 8-25.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include control input device (33), as taught by Duruoz, for the purpose of providing a user with the ability to affect trick-play modes.

Regarding **claim 14**, Willis discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above except for wherein the display is a CRT. The examiner maintains that it was well known in the art to include the missing limitations, as taught by Duruoz.

In a similar field of endeavor, Duruoz discloses a digital video decoding, buffering, and frame-rate converting method and apparatus. Further, Duruoz discloses video presentation subsystem (34) which reads on he claimed, "wherein the display is a CRT," as disclosed at column 8, line 16 and exhibited in figure 1.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the frame rate multiplier for liquid crystal display of Willis to include video presentation subsystem (34), as taught by Duruoz, for the purpose of displaying a selected video to a user.

Regarding **claim 15**, Willis discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 14 above.

Claims 17-19, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gryskiewicz et al (US Patent 6,392,712), hereinafter referred to as Gryskiewicz, in view of Oshima et al (US Patent 6,574,423), hereinafter referred to as Oshima.

Regarding **claim 17**, Gryskiewicz discloses everything claimed as applied above (see claim 16). However, Gryskiewicz fails to disclose wherein multiple frames with a progressive scan format are combined by combining some of the lines of each frame together to form a combined frame with a progressive scan format. The examiner maintains it was well known in the art to include the missing limitations, as taught by Oshima.

In a similar field of endeavor, Oshima discloses a high-resolution optical disk for recording stereoscopic video, optical disk reproducing device, and optical disk recording device. Further, Oshima discloses utilizing a progressive scan signal to generate odd interlace signals (79a) and (79b) and even interlace signals (80a) and (80b) and then combining them to obtain progressive signals, which reads on the claimed, "wherein multiple frames with a progressive scan format are combined by combining some of the lines of each frame together to form a combined frame with a progressive scan format," as disclosed at column 11, lines 16-67 and exhibited in figures 20-22.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the synchronizing interlaced and progressive video signals of Gryskiewicz to include utilizing a progressive scan signal to generate odd interlace signals (79a) and (79b) and even interlace signals (80a) and (80b) and

Art Unit: 2621

then combining them to obtain progressive signals, as taught by Oshima, for the purpose of eliminating flicker in multiple display scan modes.

Regarding **claim 18**, the limitations of the claim are rejected in view of the explanation set forth in claim 17 above.

Regarding **claim 19**, the limitations of the claim are rejected in view of the explanation set forth in claim 18 above.

Regarding **claim 40**, Gryskiewicz discloses synchronizing interlaced and progressive video signals. Further, Gryskiewicz discloses a television screen which can play NTSC or PAL video frames, which reads on the claimed, "a video display for displaying video frames at one of a multitude of different predetermined display scan rates," as disclosed at column 1, lines 38-67; and,

receiver (150) transmits video to an analog display, which reads on the claimed, "a transmitter to transmit the selected frame rate to a video source to provide frames at an average rate depending on the selection," as disclosed at column 8, lines 59-65 (wherein the act of transmitting video implies there is some sort of transmitter involved).

However, Gryskiewicz fails to disclose a user input device for selecting a frame rate and a corresponding display scan mode of the video device from among multiple different predetermined display scan modes, the video frame display rate of the display device depending on the display scan mode. The examiner maintains it was well known in the art to include the missing limitations, as taught by Oshima.

In a similar field of endeavor, Oshima discloses a high-resolution optical disk for recording stereoscopic video, optical disk reproducing device, and optical disk recording

Art Unit: 2621

device. Further, Oshima discloses a viewer instructing a stereoscopic video output to be processed via input unit (19), which reads on the claimed, “a user input device for selecting a frame rate and a corresponding display scan mode of the video device from among multiple different predetermined display scan modes, the video frame display rate of the display device depending on the display scan mode,” as disclosed at column 7, lines 1-12.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the synchronizing interlaced and progressive video signals of Gryskiewicz to include a viewer instructing a stereoscopic video output to be processed via input unit (19), as taught by Oshima, for the purpose of providing a user with the ability to affect trick-play modes.

Claims 28-30, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gryskiewicz et al (US Patent 6,392,712), hereinafter referred to as Gryskiewicz, in view of Willis (US Patent 7,106,380), hereinafter referred to as Willis.

Regarding **claims 28-30**, the examiner maintains they are the corresponding apparatus to the method of claims 2-4, respectively, and are therefore rejected in view of the explanation set forth in claims 2-4 above.

Regarding **claim 33**, the examiner maintains the claim is the corresponding apparatus to the method of claim 7 and is therefore rejected in view of the explanation set forth in claim 7 above.

Art Unit: 2621

Regarding **claims 34**, the examiner maintains it is the corresponding apparatus to the method of claim 8, and is therefore rejected in view of the explanation set forth in claim 8 above.

Claims 31-32, and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gryskiewicz et al (US Patent 6,392,712), hereinafter referred to as Gryskiewicz, in view of Willis (US Patent 7,106,380), hereinafter referred to as Willis, in view of Duruoz et al (US Patent 6,658,056), hereinafter referred to as Duruoz.

Regarding **claims 31-32 and 35-39**, the examiner maintains they are the corresponding apparatus to the method of claims 5-6 and 9-13, respectively, and are therefore rejected in view of the explanation set forth in claims 5-6 and 9-13 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC DAZENSKI whose telephone number is (571)270-5577. The examiner can normally be reached on M-F, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571)272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MARC DAZENSKI/
Examiner, Art Unit 2621

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621